



## Technical Features – Fire Construction Three New Ultracode Core Panel– Tested Assemblies Are Now Available

(Editor’s Note: This article originally appeared in the 1992, Issue 3 of Form Function. Some pictures, graphics or charts may not appear in this version. Printed copies of this article, or information about the products mentioned in it, can be obtained by writing: Editor, FORM FUNCTION, 125 South Franklin Street, Chicago, IL 60606–4678.)

There are many new construction products every year but few are truly innovative—so innovative they change the way buildings are specified. The 3/4–in. SHEETROCK® brand Gypsum Panel, ULTRACODE Core, is such a product, and its applications are multiplying.

Introduced by United States Gypsum in 1991, ULTRACODE Core Panels provided a 2–hr. fire–rating with single–layer partition (UL Design U491) and shaft wall (UL Design U492) construction plus a 4–hr. fire–rating with double–layer (UL Design U490) construction. Each of these assembly innovations is made possible because of the ULTRACODE Core Panel’s added strength and the high fire resistance of THERMAFIBER Sound Attenuation Fire Blankets. In addition, because fewer panel layers are needed, the labor of installing additional layers is eliminated, the number of fasteners required is greatly reduced, and the cost of joint treatment, sometimes used for sheet lamination or fire taping base layers in double–layer installations, is eliminated.

But now there’s more. Recent tested assemblies include UL Design X528 which provides 2–hr. and 3–hr. column protection for the following minimum sizes W4x13, W6x1 5.5 and W10x49; UL Design U435 3–hr. partition; and UL Design U436 chase wall. In each case, the use of ULTRACODE Core Panels reduces the number of layers of drywall needed to achieve the fire ratings. The assemblies are constructed as follows:

UL Design X528—Provides 2–hr. fire protection to columns with two layers ULTRACODE Core Panels, or 3–hr. fire protection with three layers, screw–attached to 1 5/8–in. UNIMAST Steel Studs positioned at column corners. For columns having depth of 36–in. or less, apply panels vertically and stagger joints between layers at least 30–in. For 3–hr. rating wrap second layer of gypsum board with No. 18 SWG steel wire spaced 24–in. o.c. When column depth exceeds 36–in., install additional 1 5/8–in. studs in each web recess inside and along column flanges and at the web center. Set studs in runners placed horizontally, parallel to web between column flanges and spaced max. 8–ft. ac. vertically. Fasten studs to runners at top and bottom. Apply gypsum panels horizontally and stagger joints between layers at least 12–in.

UL Design U435—Install minimum 158ST25 UNIMAST Steel Studs. Apply base layer of ULTRACODE Core Panels, vertically with wrapped edges parallel to and fully supported by steel framing. Stagger board joints 24–in. on opposite sides of the partition. Apply face layer of ULTRACODE Core Panels, horizontally with

wrapped edges perpendicular to steel framing. Stagger panel end joints 24-in, from base layer panel joints. Offset face layer screws from base layer screws by 1-in. Secure face panel to base panel along the horizontal joints of the face layer with long screws located midway between steel framing (24-in. o.c.) and 1-in, from horizontal joint. Stagger face panel joints by 24-in, on opposite side of the partition. Alternatively, face panels may be installed vertically with wrapped edges parallel to and fully supported by framing. Attach face panels to steel framing using screws spaced 12-in. o.c. Stagger joints in face and base layer by 24-in. o.c.

UL Design U436—Align two parallel rows of floor and ceiling runners spaced 2-in, apart. Position UNIMAST Steel Studs vertically in runners, 24-in. o.c. with flanges in the same direction, and with studs on opposite sides of chase directly across from each other, Install cross bracing made from gypsum panels or steel studs. Apply base layer of ULTRACODE Core Panels, vertically with wrapped edges parallel to and fully supported by steel framing. Stagger board joints 24-in, on opposite sides of the partition. Apply face layer of ULTRACODE Core Panels, horizontally with wrapped edges perpendicular to steel framing. Stagger panel end joints 24-in, from base layer panel joints. Attach panels to steel framing with screws 12-in. o.c. along all framing. Offset face layer screws from base layer screws by 1-in. Secure face panel to base panel along the horizontal joints of the face layer with 1 1/2-in screws located midway between steel framing (24-in. o.c.) and 1-in. from horizontal joint. Stagger face panel joints by 24-in, on opposite side of the partition. Alternatively, face panels may be installed vertically with wrapped edges parallel to and fully supported by framing. Attach face panels to steel framing with screws spaced 12-in. o.c. Stagger joints in face and base layer by 24-in. o.c.